THE TRADITIONAL ERRORS OF SURGERY.

THE PRESIDENTIAL ADDRESS,

AT THE

THIRTY-NINTH ANNUAL SESSION OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

BY

R. J. LEVIS, A.M., M.D.,

PRESIDENT OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA; LATE PRESIDENT OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY; VICE PRESIDENT OF THE ACADEMY OF SURGERY OF PHILADELPHIA; LATE SURGEON TO THE PENNSYLVANIA HOSPITAL, TO THE PHILADELPHIA HOSPITAL, AND TO THE JEFFERSON COLLEGE HOSPITAL; SURGEON TO THE JEWISH HOSPITAL; EMERITUS SURGEON OF THE WILLS OPHTHALMIC HOSPITAL, AND MEMBER OF THE AMERICAN PHILOSOPHICAL SOCIETY.

Rec'd Aug 16/88

Cedarcroft.

Kennett Square.
Pennsylvania.

Aug 6. 88

My Dear Dr. Bryant,

I send to you, herewith, a copy of an address, recently delivered, on, the Traditional Eras of Surgery.

You may not read it, and it would not interest you, and I know how free you are from being hampered by the shackles of tradition, but it will

at least keep me in your kind remembrance.

You said to me once, when in London, that you anticipated a visit to America at some indefinite time. When you come I would be glad to have you and Mrs. Bryant visit me at this, my summer residence, or in Philadelphia.

I am, with high regard,

Truly yours,

R. T. Lewis.

W. Bryan

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ADDRESS OF THE PRESIDENT.

THE TRADITIONAL ERRORS OF SURGERY.

By RICHARD J. LEVIS, M.D.,
OF PHILADELPHIA.

It has been well said that error is the discipline through which we advance. Another aphorism, which is applicable to surgical progress, is, that it is some compensation for great errors that they enforce great lessons.

The subject of the progress of surgery is an attractive theme. We feel a complacent consciousness of the progressive and rapid widening of its great domain. Its blessed function of blending science with humanity seems so nearly reaching perfection that we may hope that the millenium of surgery may not be far away from us.

Whilst thus congratulating ourselves we should bear in mind that our knowledge is but a traditional inheritance, an evolution through stages of development. In the language of one of my honored predecessors in this office, "an age which has made everything organic and inorganic subservient to its convenience and enjoyment, has cause to be proud of its achievements, and yet it would ill become it to appear arrogant and conceited, or unmindful of the fact that much of this knowledge, so much boasted of, is an inheritance, a reflection of the past, a legacy transmitted from father to son, an accumulation of the industry, the genius, and the wisdom of other days, crowned with glory, and even with martyrdom."

It has required ages of winnowing to separate the few grains of wheat from the many bushels of chaff, and the fires under crucible and alembic and the slow-grinding mills of time, have proved at last the value of the harvest.

Still it cannot be denied that the advances of a very recent period have been in a ratio of progress far exceeding those of any similar

time in the past. "We are guilty, we hope," says Macaulay, "of no irreverence toward those great nations to which the human race owes art, science, taste and intellectual freedom, when we say, that the stock bequeathed by them to us has been so carefully improved that the accumulated interest now exceeds the principal."

Yet in acknowledging our inheritance from the past, does not the history of progress in surgery often show that we have been really slow, and sometimes obstinate and perverse, in not recognizing truth and eliminating it from error, and also in allowing prejudice to override judgment? A little mental introspection may properly become us, and we may well question ourselves, in the words of the Litany, "Have we left undone those things which we ought to have done; and have we done those things which we ought not to have done?"

At the risk of having my motives miscomprehended, or of being accused of medical pessimism, I shall present a few illustrations of traditional errors of surgery.

Prejudice has done more to maintain and perpetuate error than any other cause.

Prejudice has been defined as a notion or opinion which the mind entertains without knowing the grounds and reason of it, and which is assented to without examination. There was a time in the past when we were obliged to rely on foreign surgical books, but the development of American surgical works is so satisfactory, and the future of American surgical literature seems so assured, that it is entitled to our almost exclusive patronage. American surgical literature has made its impress on the entire surgical world.

Our systematic works on surgery are not exceeded in merit, for general adoption as the leading text-books for all of our medical schools. With the excellent works on special departments, as gynecic, ophthalmic and oral surgery, and the monographs on fractures and dislocations and genito-urinary surgery, we would not suffer nor fall behind if nothing on these subjects were ever brought from abroad. Still we erroneously encourage the reprinting of English books, and it continues to be a paying business to publishers. The absence of copyright enables them to publish unfairly without compensation to foreign authors, and thus they can undersell the works for which Americans are paid. In disregard of a sense of right and justice to the profession and to the community, this traditional error continues.

We are now possessed of such meritorious text-books of general surgery that it is no longer necessary that our medical colleges should recommend works of foreign origin. But this is done to a great extent, and quite frequently it is evident that a marked prominence or preference is given to the foreign text-books. I have examined the annual announcements of seventy-two American regular medical colleges, and find that there are in all one hundred and fifty-seven recommendations of American works, and one hundred and eighty-six of foreign authorship. The single well-known surgical text-book receiving the greatest number of faculty recommendations is of English origin.

The inference from this traditional error of preference for foreign works must be the conclusion that many of the faculties of the schools are influenced by either an honest conviction of the inferior character of the works of American origin, or else by a spirit of dishonorable jealousy of our own countrymen, of high renown as authors, or of the colleges with which some of them are associated.

The science of surgery is based on ascertained truths, and we need less of theories and systems, not what is thought or supposed, but what is observed and found to be fact. Much error is transmitted and becomes traditional from the lack of systematic records of observation in hospitals and by private practitioners. It is bu recently that some of the largest general hospitals of the country have begun even the most simple records of surgical cases. The recording is usually done by the resident surgeons, who are young and inexperienced, and the records receive little, if any, supervision from the attending surgeons, who are chief in authority in the wards. From the hundreds of thousands of patients admitted to the various hospitals of our country the results to surgical literature by records from practical experience are extremely meagre.

The records of the experience of individual practitioners, of intelligent and trained minds, would be a gain to surgical progress and tend to avoid the transmission of traditional errors. From practitioners in regions far away from medical centres, in such locations as are abroad styled provincial, have originated some of the most valuable practical discoveries and advances. There may be instanced the discovery of vaccination, in rural England, by Jenner; the origin of ovariotomy, by McDowell, in what was then a frontier region of Kentucky, and its development by Atlee, in Lancaster County, Pennsylvania; and the very beginning of practical gynecology, by

Marion Sims, in the obscurity of Northern Alabama. It is said that the ploughman, tilling the fields of the western slope of our continent, who keeps his eyes intently on the furrow, may occasionally find nuggets of gold; and so the faithful toiler amidst human ills is liable to unearth jewels of fact, which, garnered and recorded, will add to the wealth of surgical knowledge.

There is a department of collegiate teaching which has a vital bearing on surgery, the lack of thoroughness of which is an illustration of long-continued traditional error. I refer to the very imperfect education of medical students in human anatomy. I heard the late Sir William Fergusson commence an address on modern surgery with the aphorism, "The glory of surgery is precision." The basis of surgical precision is anatomical accuracy. After much association with recent graduates in medicine, and from experience in competitive examinations of the best educated young physicians for the position of resident in general hospitals, and from other abundant opportunities, I am convinced that the most evident and serious deficiency in their medical education is in reference to even such essentials of human anatomy as bear on the daily work of the wards. As to such accuracy of anatomical knowledge as will insure the precision that is the glory of surgery, it is rarely attained during the usual brief term of the collegiate course.

Practical anatomy is the one subject of study which is most conveniently pursued during the period of the collegiate term. It must be admitted that comparatively few ever study anatomy in any but a most casual, irregular and fragmentary manner, after having obtained the medical degree.

It is depressing to think that the deficient and unsystematic knowledge of the anatomy of the human body, usually possessed by the medical tyro, does not often increase, but rather that, with his years and experience, the vague and imperfect impressions acquired by the eye and hand in the dissecting room, are destined to become even less vivid, and, in time, like the baseless fabric of a vision, to fade away. Daily contact with the masses of the general practitioners demonstrates to me that such is the case, and they often, with candor, admit the consciousness of their extreme deficiency in anatomical knowledge, or at least naively concede that, as they mildly express it, they "have grown a little rusty on the subject."

The fault lies not with our able teachers of anatomy, but with

the facnlties of the colleges, in the limited period of the already too crowded college terms. So the traditional error of deficient edncation in hnman anatomy continnes, and the only excnse given for it is that nsually given for the faults of tradition, "it is so because it has always been so."

Withont desiring to be too iconoclastic, I would advise abbreviating some other studies in order to give place to more anatomical stndy; and, considering how mnch of the time of the scholastic session is spent in the details of unimportant articles of the materia medica, in the protracted attention to the obstetric processes, and to the stndy of abstract, recondite chemistry, of but little practical bearing, the great subject of anatomy receives a sadly disproportionate amount of study. The skeleton alone, that great anatomical gronndwork, with its mechanics of motion and its salient points and landmarks for snrgical bearings, is really the most important and interesting of all anatomical study, and might properly consnme much of the time and attention nsually spent on the whole subject of hnman anatomy during an entire session. It is for this Society, as a leader of professional public opinion out of the slonghs of tradition, to give its influence in favor of snch education in anatomy as is essential to the proper practice of scientific medicine and surgery.

There are some traditional errors which pertain to the differentiations of surgical practice called specialism. The greatest advances in snrgical science and art, at the present time, are made throngh special attention to certain lines of study and practice. This differentiation by specialism is jnstified by the advance of these lines beyond the possibility of any individnal practitioner ever comprehending all that can be known in them. That there are dangers connected with these exclusive and narrow paths must be admitted; bnt still specialism stands established and accepted as a permanency, and needs only to be intelligently gnarded.

Legitimate specialism should be recognized only as a snperstructure, built on a substantial fonndation of generalism. A proper specialty is a differentiated part of a wide general knowledge. In a recent address Professor Virchow said:

"Within twenty-five years the great host of specialties has developed; and it would be vain, anyhow fruitless, to oppose this tendency; but I think I ought to mention it here, and hope that I shall be certain of approval, when I say that no specialty can flourish which separates itself entirely from the common source of science; that no specialty can develop

fruitfully and beneficially if it do not ever and anon draw from the common fountain, if it do not take the other specialties into account, and if all the specialties do not mutually assist one another; thereby a fact which is not always considered necessary for practice, receiving knowledge though that unity on which our position internally, and I can also say, externally, rests. It would be the most foolish and most dangerous development, if the system of specialties should ever come to such a pitch that special schools were to be founded in which special branches were taught without any knowledge of other things offered us by the science of medicine."

In some countries of Europe, as France, Germany, Holland and Switzerland, no one is permitted to practise a specialty without having first passed through a state examination which embraces all the branches of medicine and surgery, the natural sciences, chemistry, botany, etc.

When the most radical advocates of exclusive specialism refer to those whose labors have made the great advances, they are sure to name those whose well-known solid foundation of great general learning led the way to special achievements. Such names as Donders, von Graefe and Bowman, in ophthalmic surgery, and the Atlee brothers, Sims, Wells, Keith and Tait, in gynecology, and Thompson and Bigelow, in the surgery of the urinary organs, were well known in wider fields, before eminence was reached in special lines.

The great danger of specialism lies in its tendency to what may be called *exclusivism*—the study of, and practice on distinct organs of the body without reference to their mutual and intimate relations and interdependence.

I am familiar with the case of a lady whose condition may, perhaps, be best described in the word neurasthenia, with general hyperæsthesia, a supersensitiveness of every part of the body. She has in vain sought relief from numerous specialists, and tells a curious story of how each enthusiast treated vigorously and exclusively the organ that belongs to his special domain.

The only security against excessive special differentiation lies in the prerequisite that good preliminary and general professional education, as a broad foundation, shall not be neglected.

The public has become familiar with differentiation in the special practice of the mechanic arts. The making of a single pin or a sewing-needle is only accomplished in perfection by its passing through the hands of various experts. The kindred practice of the law has, of late, become divided into numerous specialties. There

are indications that the subdivisions of law practice may exceed those of medicine, and they seem to be popularly accepted and appreciated.

Franklin is authority for the story of a traveller in an eastern country, who met one of his own countrymen whom he had known at home in some menial occupation, but was now practising as a physician.

"But," asked the traveller, "What do you know of medicine?" "Oh! I have a book which tells me how to cure all manner of diseases." "But," said he, after a pause, "I am often at a loss to know what the disease is. If I could only obtain a book that would tell me what is the disease, I could make a fortune; for then, having one which gives me cures for all, I should be infallible."

Now, as no one book can be made to always tell what the disease is, and what will cure it, so no one mind can acquire the great scope of medical learning.

In a conversation with the late Professor Hamilton, of New York, he remarked to me earnestly: "We," meaning the general surgeons, "are the last of the line. The practice of specialties is increasing so rapidly, and the subdivisions are so great, that the occupation of the surgeon of general practice will soon be gone."

I expressed a decidedly contrary view of the matter, and inquired if he believed that the specialist would ever be demanded for the various diseases of the bones, for aneurisms, hernia, intestinal obstruction, chronic abscesses, for recent injuries, and for the vast number of diseases, of varied locality, which are associated with general states of the system.

Some of the specialties are becoming subjects of general, widespread knowledge and practice amongst the great class of practitioners. The labors of the specialists have determined what is practical in their departments, and the intelligent physician in general practice now receives it in condensed form, eliminated for ready application. Such is markedly the case in regard to ophthalmic practice, in which the correction of refractive defects, lately confined to the narrow specialty of a few, is now well done by a considerable number of intelligent general practitioners.

The same may be asserted of the broadened specialty of gynecology, which, as now advanced and freed from unnecessary complications and encumbrances, is within the reach of most intelligent physicians. Specialists will always lead the van of progress, but

an army of educated physicians will be sure to keep well abreast of the forward line of the advance.

Few of the advances of civilization have been made without meeting the obstacle and opposition of prejudice. The early histories of Harvey, Jenner, Morton and Lister are the records of struggles and suffering under professional contumely and vicious opposition. Dr. Morton, to whom the world is indebted for practical anæsthesia, went early from this life, without either proper award of honor due him, or even reimbursement for the outlay of his entire fortune by time and labor spent in introducing his discovery. Practical anæsthesia commenced with its production by Morton with sulphuric ether. It was a more original discovery than was vaccination by Jenner, who admitted that he had learned from the country people that those who had become accidentally inoculated with virus from the cow, were thereby rendered secure from smallpox. Time, which, "at last, sets all things even," will write on an immortal tablet the name of Morton. "Death opens the gate of fame, and shuts the gate of envy after it."

As an illustration of the spirit of prejudice against Morton's introduction of anæsthesia by sulphuric ether, and of its slow adoption by surgeons, I quote from the *Medical Examiner*, of this city, in the year 1846 :

"We should not consider it entitled to the least notice, but that we perceive, by the *Boston Medical and Surgical Journal*, that prominent members of the profession in that city have been caught in its meshes. We are persuaded that the surgeons of Philadelphia will not be seduced from the high professional path of duty, into the quagmire of quackery, by this Will-o'-the-wisp. We cannot close these remarks without again expressing our deep mortification and regret, that the eminent men who have so long adorned the profession in Boston should have consented for a moment to set so bad an example to their younger brethren, as we conceive them to have done in this instance. If such things are to be sanctioned by the profession, there is little need of reform conventions, or any other efforts to elevate the professional character; physicians and quacks will soon constitute one fraternity."

The editor of *The Annalist* said :

"The last special wonder has already arrived at the natural term of its existence: and the interest created by its first advent has, in a great measure, subsided. It has descended to the bottom of that great abyss which has already engulphed so many of its predecessor novelties, but which continues, alas ! to gape, until a humbug yet more prime shall be thrown into it."

The New York Journal of Medicine said:

"We are sorry to see many of our brethren, at home and abroad, stooping from the exalted position they occupy in the profession to hold intercourse with, and become the abettors of, quackery in any form. Such doings are certainly contrary to the ethics of the profession, and should not be tolerated for a moment in any one."

The Medical and Surgical Journal, of New Orleans, offered the following sentiment:

"That the leading surgeons of Boston could be captivated by *such an invention as this*, heralded to the world under such auspices and upon *such* evidences of utility and safety as are presented by Dr. Bigelow, excites our amazement. Why, *mesmerism*, which is repudiated by the *savans* of Boston, has done a thousand times greater wonders, and without any of the dangers here threatened.

Such extracts illustrate the definition of prejudice. The animus was not that of "honest doubt," but of vicious opposition and jealousy. "But ever the right comes uppermost," and as early as 1847, Oliver Wendell Holmes, who created the word anæsthesia, wrote:

"Nature herself is working out the primal curse which doomed the tenderest of her creatures to the sharpest of her trials, but the fierce extremity of suffering has been steeped in the waters of forgetfulness, and the deepest furrow in the knotted brow of agony has been smoothed forever."

There is no sadder or more painful story of traditional error, due, for the most part, to obstinately held preconceived opinions than the of the opposition to, and the long probationary trial of ovariotomy.

The practical establishment of ovariotomy is due to one of honored predecessors in this Presidency, Dr. John L. Atlee, Lancaster, seconded by his younger brother, Dr. Washington Atlee, of this city. The single precedent of McDowell probably little, if any, influence on these pioneer surgeons, who, by continued, patient labor, bearing the brunt of professional tion and obloquy, demonstrated the value of the operation. early triumph of ovariotomy is due to the labors, trials and ferings of the Atlee brothers.

In an address by Dr. Washington L. Atlee, about thirteen years ago, he said:

"As, during the probationary stage of ovariotomy, I was under the ban of the profession and had to suffer from unjust obloquy, I hope that I may be pardoned in any honest manifestations of triumph since the curse has been removed."

. . . . "Ovariotomy was everywhere decried. It was denounced by the general profession, in the medical societies, in all the medical colleges, and even discouraged by the majority of my own colleagues. I was misrepresented before the medical public, and was pointed at as a dangerous man, even as a murderer. The opposition went so far that a celebrated professor—a popular teacher and captivating writer—in his published lectures invoked the law to arrest me in the performance of this operation."

. . . . "What is most remarkable, the strongest opposition came from those who had never seen the operation, who would not consent to see it, and who consequently knew nothing about it."

"At the opening of the session, 1844–45, of Jefferson Medical College, Professor Thomas D. Mütter, in his introductory address, used these expressive words: 'A distinguished philosopher has classed man among the most cruel of all animals. . . . . Certain it is that some of our operations may be considered as supporting, to a limited degree, the charge made against our race; and there is none in the whole domain of surgery better calculated to elicit, even among the profession, a more profound sensation of horror, or better deserves the epithet of cruel, than one recently introduced into practice; and were we not convinced that nothing but a fervent desire to relieve a suffering mortal could induce a surgeon to undertake its performance, we should at once look upon its author as a being destitute of either sympathy or compassion, and richly deserving the detestation of his fellow-men. The operation to which I refer is that for the removal of ovarian tumors!'"

. . . . "Professor Charles D. Meigs thus emphatically expressed himself: 'I detest all abdominal surgery.' 'I am free to say, that I look upon all operations for the extirpation of the diseased ovary as not to be justified by the most fortunate issue in any ratio whatever of the cases.' 'Dr. Atlee's ›olness in cutting open a woman's belly does not, I think, entitle him to ·e more clearly than I, as to the morals of such surgery. . . . . Dr. likes ovarian operations; on the contrary, I detest them, and should d to see them prevented by statute.'

. . 'I should be glad if you would look over the statistics of ovari- › discover how many bellies have been ripped up by the surgeons in ›tation of having the blessed satisfaction and *praise* of curing a tumor. a surgeon to open a woman's belly to extirpate an ovary; that he ›vary there, that he then sews up the gash; and next, that she dies! ›uld the attorney-general say? It would scarcely be unfair to say, the fatal results of operation for extirpation of the ovary, that the ›nt is compelled to render her soul to God, and her carcass to the sur-›on.'"

We have in the soulful devotion of the Atlee brothers to ovari-›tomy the material for a homily, with the text, from Solomon, ›ove is strong as death; jealousy is cruel as the grave."

›nnot conclude this sad subject of the struggles and triumphs ·iotomy better than by again quoting Dr. Washington L. ›wn words.

"The history affords a moral to all young men who are cultivating the fields of science and humanity. In all the battles of professional life, let them weigh well their foundation of action, think for themselves rather than follow doubtful authority, cultivate a pure conscience, adhere strictly to professional and moral rectitude, sacrifice self on the altar of humanity, allow no personal considerations to outweigh their obligations to their patients, and turn neither to the right nor to the left, while in the path of duty, when professional storms assail them. Then, even should they err at times, they will pass through the fire purified though the whole world may have been armed against them."

The tardy recognition of the great benefits of antiseptic surgery is a discredit to the surgery of the times. It is nearly thirty years since Mr. Lister, now Sir Joseph Lister, founded, on certain definite principles, a form of wound treatment called the antiseptic method. It is based on the proper recognition of a common biological process, the decomposition of organic substances. The principle involved in the treatment is the same as that universally recognized in domestic economy for the preservation of animal and vegetable substances. By the antiseptic treatment surgery has almost been revolutionized, and to it is due much of the modern great increase of domain. Effective prevention is now substituted for treatment of avoidable sequences; and the unfortu tions of septicæmia, pyæmia, hospital gangrene and e been much abated since their germinal origin was und

I agree with Dr. Gerster, in his work on antiseptic s

"It cannot be successfully denied that *the surgeon's acts dete of a fresh wound, and that its infection and suppuration are due to faults of omission or commission.*"

Professor Tyndall recently said:

"A great theory has never been accepted without opposit of gravitation, the theory of undulation, the theory of ev mical theory of heat, all had to push their way throug And so it has been with the germ theory of com Some of the outlying members of the medical pr . . . Such must always be the course of t endowed with different degrees of insight; wh cerns the distant truth which it pursues, the m cerns nothing but the extravagance which it av

To this late day few of the popular text give the subject even respectable recognitio one of these, a text-book adopted by a co that "the alleged superiority of the anti

said to have been as yet demonstrated;" and the author dilates on the danger from carbolic acid, and disposes of the bichloride of mercury as but "the fashionable antiseptic of the moment." But we are surely advancing through darkness into light, and Sir Joseph Lister, the originator of the antiseptic treatment of wounds, now worthily stands as the grandest figure in the surgery of the latter end of the nineteenth century. His name will be written on the tablets of the future with those of Jenner and Morton and others whose labors have been a gain to science and a blessing to humanity.

It seems to me unfortunate that carbolic acid was adopted as the favorite antiseptic and so long exclusively adhered to by Lister. Its comparatively weak and evanescent antiseptic qualities, and, when in potential solutions, its irritating character, frequently caused failure and led many surgeons to doubt the real value of the antiseptic treatment. In solutions strong enough to be thoroughly antiseptic it produces irritation, and may even cause the suppuration it was promised to avert. It is certain that with the general adoption of the thorough antisepsis of the mercurial salts has antiseptic

ome general.

nger members of the profession are generally due the study, the recognition of the merits and the practical f the antiseptic treatment of wounds. The older sur- generally been tardy and often persistently obstinate in The attending surgeons of our general hospitals appear last learned of its value and become obliged to recognize it from the younger resident surgeons of the wards. In hospitals an attending surgeon yielded his opposition d antiseptic treatment in his wards, against his ap- ion, and only under authoritative compulsion by the institution.

by and am fully in accord with the remark of Baker, in a recent address, in which he admitted from the young men in the profession."

much, consult too long, adventure too little, re- lrive business home to the full period, but con- iocrity of success."

vintage of progress does not seem suited to ne few of our surgeons of mature age and

experience have been the best apostles of the principles and practice of antisepsis.

Cicero says:

"As I approve of the youth that has something of the old man in him, so I am no less pleased with an old man that has something of the youth."

There is a tendency to the complication of surgical instruments and apparatus that continues traditionally. Few instruments seem to be made straight in form if it be possible to complicate them by crookedness. Metallic bougies, intended for the male urethra, which deviates so little from a straight course, are improperly curved into almost a hooked form. Curved scalpels and bistouries I have never found use for, and they may well be banished from our too complex armamentarium. For ordinary surgical purposes a straight needle can be used with more convenience and precision than the usual curved ones, and the bayonet point may well be substituted for the antiquated lance point. It is a fallacy to assnme that the complication of a surgical instrument can take the place of manual dexterity.

The common flexible probe of the pocket case is dangerously complicated with a sharp point at the end that is held by the hand of the snrgeon. No one seems to have ever found a use for this dangerous point, and, although surgeons have received injuries from accidental puncture, causing infection, with the loss of a hand and even of a life, yet this useless complication of a simple instrument continues.

As to the great multiplicity of complicated apparatus contrived for the treatment of fracture of the bones of the extremities, they may, without practical loss, be nearly all consigned to oblivion. Few of them are effective in overcoming the great displacing factor of muscular contraction. For the treatment of fracture of the shaft of the femur I know of eighteen varieties of apparatus, all of which may be discarded in favor of simple weight extension. For the treatment of fracture of the elavicle, more than a score of contrivances have been presented, not one of which effectively counteracts the tendency of the outer fragment to displacement forward, downward, and inward, and of the onter end of the inner fragment to elevation.

And yet the treatment of this fracture by simply placing the patient in the supine position, lying on a flat mattress, with the head slightly raised, is the only known practical means of perma-

nently effecting reduction of the displacement. If the correct reduction be thus continued for a week or ten days, there will be found to be little or no tendency to displacement of the fragments when the patient resumes the erect position. So also in the treatment of many other fractures, the principal factor of displacement may be negatived or overcome by the postural method alone, without resorting to any of the appliances that tradition has so long adhered to.

There is a tendency to the empirical association of certain fractures of bones with their treatment by particular forms of splints, which often bear the name of the inventor. Such appliances falsely imply a uniformity of the character of fractures, and tend to the neglect of the study of the nature and mechanism of each individual case.

The continuance of the association of the name of a surgeon with a certain fracture, as in the instance of those of Colles and Barton, has continued the errors which those surgeons made in their teachings, and has prevented a general proper comprehension of the real nature of the usual form of fracture of the lower end of the radius, and is fatal to its correct treatment. Extended observation shows that the characteristic fracture of the lower end of the radius is caused by transverse, or cross-breaking strain, is almost invariably transverse in direction, and is located within about a quarter of an inch of the articular surface. The surgeons whose names have been so long associated with this fracture accurately described its external manifestations, but failed as to its true nature and the mechanism of its production. Thus, the authority of distinguished names may mask the truth and lead to the tradition of error.

I cannot close the subject without at least a brief reference to some most evident traditions of error in surgical practice.

Before the days of the blessed mercy of anæsthesia, surgical operations were humanely performed with as great rapidity as was possible, and this was, of course, done at the sacrifice of care and exactness in the performance. To test the quickness of the performance the operator would often request a bystander "to time him."

But the practice of hasty operating, and, consequently, imperfect manipulation, continues with many surgeons, sacrificing the precision which is the glory of surgery.

The teaching of advising delay in the operative treatment of depressed fractures of the skull until dangerous cerebral symptoms of compression or of inflammation appear, is an error that tradition is answerable for. What dangers there are in the application of the

trephine pertain rather to the inefficiency of the operator than to what should be the real merits of the operation.

The very frequent delay in the operative treatment of strangulated hernia until inflammation occurs and sphacelation is threatened is a most common error. So also even the recognition of the actual existence of hernia is often delayed, it being masked by the referred central abdominal pains, and the case passes on to danger or to death as one merely of intestinal colic.

The fact of the distinctly local origin of some malignant tumors and their amenability to radical cure by very thorough extirpation is not yet sufficiently recognized by the profession.

It does not yet seem to be known that the ordinary tourniquet may well be discarded in favor of the greater blood-saving efficiency of the elastic bandage. The absurd and unreliable dependence on styptics for the arrest of hemorrhage, to the disregard of simple, safe and more efficient means, as pressure, hot or cold applications, or the ligature, is a senseless tradition.

There prevails with some surgeons an unwarranted practice of delaying the reduction of the displacement of fractures of the femur and of the tibia. I have seen, as the unfortunate result of such delay, the occurrence of gangrene of the limb, due to pressure of a displaced fragment shutting off circulation through the main arterial and venous trunks. This disaster is particularly liable to follow in case of fractures near to the lower end of the femur, in which a displaced fragment may, by pressure, occlude the popliteal vessels.

The intelligence and energy of some of the members of this Society are tending to the widening of the domain of surgery in the operative treatment of diseases and injuries of the brain, the heart and the viscera of the abdominal cavity, in such a way that the shackles of tradition are being rapidly set aside. On these subjects we, who, not long ago, "walked in darkness have seen a great light," and we have left to us only the consolation of the impressive teaching, that error is the discipline through which we advance, and that it is some compensation for great errors that they enforce great lessons.